

WHAT IS CLAIMED IS:

1. A strip-form touch fastener component comprising
a resin base having a front surface from which an array of fastener elements project,
each fastener element having

5 a stem extending contiguously from the front surface of the base and formed
of resin forming at least a portion of the base; and

a head disposed on the stem above the base and forming an overhang for
releasably engaging fibrous loops; and

10 a reinforcing fabric on a side of the resin base opposite the fastener elements, the
fabric comprising two distinct layers of yarns, including

an anchor layer facing the resin base and comprising filaments embedded
within resin of the base to anchor the fabric to the base; and

15 an outer layer comprising float filament sections extending generally along an
outer surface of a back side of the fastener component, such sections connected to the back
side of the fastener component only at their ends, and otherwise lying against the back side of
the fastener component.

2. The touch fastener component of claim 1 wherein the float filament sections
extend generally straight between their connected ends.

20 3. The touch fastener component of claim 2 wherein the float filament sections
are substantially free of resin of the base between their ends.

4. The touch fastener component of claim 1 wherein the float filament sections
extend no more than about 0.3 millimeter from a back surface of the resin base.

25 5. The touch fastener component of claim 4 wherein the float filament sections at
least about 0.03 millimeter from the back surface of the resin base.

30 6. The touch fastener component of claim 4 wherein the float filament sections
extend about 0.15 millimeter from the back surface of the resin base.

7. The touch fastener component of claim 1 wherein the float filament sections have an average float length of at least about two millimeters.

5 8. The touch fastener component of claim 7 wherein the average float length is between about 2 and 10 millimeters. (3 to 6; about 5 millimeters)

9. The touch fastener component of claim 1 wherein an average float length of the float filament sections is more than about 10 times as long as a nominal distance the float 10 filament sections extend from a back surface of the resin base.

10. The touch fastener component of claim 1 wherein the float filament sections are arranged in a pattern of at least about 150 float filament sections per square centimeter of the back side of the fastener component.

15 11. The touch fastener component of claim 1 wherein the float filament sections are sections of filaments of multifilament yarns of the reinforcing fabric.

12. The touch fastener component of claim 1 wherein the float filament sections 20 extend in a direction generally across the strip-form fastener component.

13. The touch fastener component of claim 1 wherein the yarns are multifilament 25 yarns.

14. The touch fastener component of claim 13 wherein each yarn contains from 10 to 13 discrete filaments.

15. The touch fastener component of claim 13 wherein the yarns are between 30 about 20 and 170 denier.

16. The touch fastener component of claim 13 wherein each yarn filament is between about 2 and 40 denier.

5 17. The touch fastener component of claim 1 wherein the reinforcing fabric is a knit fabric, knit to define a technical face and a technical back.

18. The touch fastener component of claim 17 wherein the technical face faces the resin base, with the technical back providing the float filament sections.

10 19. The touch fastener component of claim 18 wherein the technical back is in an unnapped condition

20. The touch fastener component of claim 17 wherein the float filament sections extend no more than about 0.3 millimeter from a back surface of the resin base.

15 21. The touch fastener component of claim 20 wherein the float filament sections extend at least about 0.03 millimeter from the back surface of the resin base.

20 22. The touch fastener component of claim 17 wherein an average float length of the float filament sections is more than about 10 times as long as a nominal distance the float filament sections extend from a back surface of the resin base.

23. The touch fastener component of claim 17 wherein an average float length of the float filament sections is between about 2 and 10 millimeters.

25 24. The touch fastener component of claim 17 wherein the reinforcing fabric is a warp knit fabric.

30 25. The touch fastener component of claim 24 wherein the fabric comprises between about 20 and 60 courses per inch.

26. The touch fastener component of claim 25 wherein the fabric comprises between about 47 and 55 courses per inch.

5 27. The touch fastener component of claim 24 wherein the fabric comprises between about 15 and 60 wales per inch.

28. The touch fastener component of claim 27 wherein the fabric comprises between about 32 and 38 wales per inch.

10 29. The touch fastener component of claim 17 wherein the fabric is stabilized in a post-knit, cross-wale stretch condition.

30. The touch fastener component of claim 1 having a Stitch Hole Tear Strength of at least 2.0 pounds.

15 31. A strip-form touch fastener component comprising a resin base having a front surface from which an array of fastener elements project, each fastener element having

20 a stem extending contiguously from the front surface of the base and formed of resin forming at least a portion of the base; and

a head disposed on the stem above the base and forming an overhang for releasably engaging fibrous loops; and

25 a reinforcing fabric directly laminated to a side of the resin base opposite the fastener elements, the fabric comprising a knit material with float filament sections extending generally along an outer surface of a back side of the fastener component, such sections connected to the back side of the fastener component only at their ends, and otherwise lying against the back side of the fastener component.

30 32. The touch fastener component of claim 31 wherein the float filament sections extend generally straight between their connected ends.

33. The touch fastener component of claim 32 wherein the float filament sections are substantially free of resin of the base between their ends.

5 34. The touch fastener component of claim 31 wherein the float filament sections extend no more than about 0.3 millimeter from a back surface of the resin base.

35. The touch fastener component of claim 34 wherein the float filament sections at least about 0.03 millimeter from the back surface of the resin base.

10 36. The touch fastener component of claim 34 wherein the float filament sections extend about 0.15 millimeter from the back surface of the resin base.

37. The touch fastener component of claim 31 wherein the float filament sections have an average float length of at least about two millimeters.

15 38. The touch fastener component of claim 37 wherein the average float length is between about 2 and 10 millimeters.

20 39. The touch fastener component of claim 31 wherein an average float length of the float filament sections is more than about 10 times as long as a nominal distance the float filament sections extend from a back surface of the resin base.

25 40. The touch fastener component of claim 31 wherein the float filament sections are arranged in a pattern of at least about 150 filament sections per square centimeter of the back side of the fastener component.

41. The touch fastener component of claim 31 wherein the float filament sections are sections of filaments of multifilament yarns of the reinforcing fabric.

30 42. The touch fastener component of claim 31 wherein the float filament sections extend in a direction generally across the strip-form fastener component.

43. The touch fastener component of claim 31 wherein the yarns are multifilament yarns.

5 44. The touch fastener component of claim 43 wherein each yarn contains from 10 to 13 discrete filaments.

45. The touch fastener component of claim 43 wherein the yarns are between about 20 and 170 denier.

10 46. The touch fastener component of claim 45 wherein the yarns are about 40 denier.

15 47. The touch fastener component of claim 43 wherein each yarn filament is between about 2 and 40 denier.

48. The touch fastener component of claim 47 wherein each yarn filament is between about 3 and 5 denier.

20 49. The touch fastener component of claim 31 wherein the reinforcing fabric is knit to define a technical face and a technical back, the technical face facing the resin base and the technical back providing the float filament sections.

25 50. The touch fastener component of claim 31 wherein the reinforcing fabric is in an unnapped condition

51. The touch fastener component of claim 31 wherein the reinforcing fabric is a warp knit fabric.

30 52. The touch fastener component of claim 51 wherein the fabric comprises between about 20 and 60 courses per inch.

53. The touch fastener component of claim 51 wherein the fabric comprises between about 15 and 60 wales per inch.

5 54. The touch fastener component of claim 31 wherein the fabric is stabilized in a post-knit, cross-wale stretch condition.

55. The touch fastener component of claim 31 having a Stitch Hole Tear Strength of at least 2.0 pounds.

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56. A method of reinforcing a resin base of a plastic touch fastener component having an array of fastener elements extending from a front surface of the resin base, the method comprising

15 providing a fabric defining a technical face and a technical back, the technical back including an array of float sections of filaments;

laminating the fabric to a back surface of a resin sheet to form a laminate, with the technical face of the fabric facing the resin sheet and the float sections extending along an exposed surface of the laminate; and

20 forming an array of touch fastener elements extending from a front surface of the resin sheet, each fastener element having a resin stem extending contiguously from resin of the front surface of the resin sheet.

57. The method of claim 56 wherein the fabric is laminated to the resin sheet as the resin sheet is formed from molten resin.

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58. The method of claim 56 wherein the fabric is laminated to the resin sheet by introducing both the fabric and moldable resin to a nip adjacent a rotating roller, applying pressure to infuse the resin into surface features of the fabric, and then cooling the resin to secure the resin to the fabric.

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59. The method of claim 58 wherein the nip is defined between two counter-rotating rollers.

5 60. The method of claim 58 wherein the nip is defined between the rotating roller and an extrusion nozzle.

61. The method of claim 58 wherein the rotating roller defines an array of molding cavities, the applied pressure also forcing the resin into the molding cavities to form at least the stems of the fastener elements.

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62. The method of claim 61 wherein the cavities are shaped to form engageable fastener elements.

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63. The method of claim 56 wherein the float filament sections have ends secured to the laminate and extend generally straight between their ends.

64. The method of claim 63 wherein the float filament sections are substantially free of resin of the sheet between their ends.

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65. The method of claim 56 wherein the float filament sections extend no more than about 0.3 millimeter from a back surface of the resin of the laminate.

66. The method of claim 65 wherein the float filament sections at least about 0.03 millimeter from the back surface of the resin base.

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67. The method of claim 56 wherein the float filament sections have an average float length of at least about two millimeters.

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68. The method of claim 67 wherein the average float length is between about 2 and 10 millimeters.

69. The method of claim 56 wherein an average float length of the float filament sections is more than about 10 times as long as a nominal distance the float filament sections extend from a back surface of the resin of the laminate.

5 70. The method of claim 56 wherein the float filament sections are arranged in a pattern of at least about 175 filament sections per square centimeter of the back side of the laminate.

10 71. The method of claim 56 wherein the float filament sections are sections of filaments of multifilament yarns of the fabric.

72. The method of claim 56 wherein the reinforcing fabric is knit to define a technical face and a technical back, the technical face facing the resin sheet and the technical back providing the float filament sections.

15 73. The method of claim 56 wherein the reinforcing fabric is laminated to the resin sheet in an unnapped condition.

20 74. The method of claim 56 further comprising, prior to laminating the fabric to the resin sheet, stretching the fabric across a width of the fabric.

75. The method of claim 74 wherein the reinforcing fabric is a knit fabric stretched in a cross-wale direction.

25 76. The method of claim 74 wherein the lamination is performed in a continuous process defining a machine flow direction, and wherein the stretching reorients the float sections to increase their orientation toward a direction extending perpendicular to the machine flow direction.

30 77. The method of claim 74 further comprising, prior to laminating the fabric to the resin sheet, stabilizing the fabric in its stretched condition.

78. The method of claim 74 wherein the fabric is stretched sufficiently to straighten the float sections of filaments.